



CITY OF SAN DIEGO
Public Utilities Department
Wastewater Treatment and Disposal Division
Operation Support Group

Biosolids Certification Package
January 1, 2019 – January 31, 2019

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**CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT**

**BIOSOLIDS CERTIFICATION STATEMENT
for
MEETING PATHOGEN REDUCTION REQUIREMENTS
January 1, 2019 – January 31, 2019**

The following pathogens reduction requirement has been prepared in accordance with U.S. Environmental Protection Agency 40 CFR Part 503 Standards for the use and disposal of bulk sewage sludge from the Metro Biosolids Center Operated by the City of San Diego, Public Utilities Department.

503.17 (a)(4)(i)(C) - A description of how the Class B pathogens requirement in 503.32 (b) (3) is met.

At the City of San Diego Metropolitan Biosolids Center sludge undergoes anaerobic, high rate, mesophilic digestion that meets 503 regulations for detention time and temperature.

503.17 (a)(4)(i)(B) - Certification statement for meeting pathogens reduction requirements.

I certify, under penalty of law, that the Class B pathogen requirements in 503.32 (b)(3) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

For The City of San Diego
Public Utilities Department

By: 

Date 3/6/19

Richard Pitchford
Superintendent
Wastewater Treatment and Disposal Division
Metropolitan Biosolids Center

**CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT**

**BIOSOLIDS CERTIFICATION STATEMENT
for
MEETING PATHOGEN REDUCTION REQUIREMENTS
January 1, 2019 – January 31, 2019**

The following pathogens reduction requirement has been prepared in accordance with U.S. Environmental Protection Agency 40 CFR Part 503 Standards for the use and disposal of bulk sewage sludge from the Metro Biosolids Center Operated by the City of San Diego, CA, Public Utilities Department.

503.17 (a)(4)(i)(C) - A description of how the Class B pathogens requirement in 503.32 (b) (3) is met.

At the City of San Diego Point Loma Wastewater Treatment Plant sludge undergoes anaerobic, high rate, mesophilic digestion that meets 503 regulations for detention time and temperature.

503.17 (a)(4)(i)(B) - Certification statement for meeting pathogens reduction requirements.

I certify, under penalty of law, that the Class B pathogen requirements in 503.32 (b)(3) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

For The City of San Diego
Public Utilities Department

By: 

Date 3-13-19

David Marlow
Superintendent
Wastewater Treatment and Disposal Division
Point Loma Wastewater Treatment Plant

**CITY OF SAN DIEGO
PUBLIC UTILITIES DEPARTMENT
CERTIFICATION STATEMENT**

In Compliance with
U.S. Environmental Protection Agency 40 CFR Part 503 Standards
For the Use and Disposal of Bulk Sewage Sludge from the
Metro Biosolids Center
Operated by the City of San Diego Public Utilities Department

VECTOR ATTRACTION REDUCTION

The daily fractional volatile solids reduction (FVSR) values were calculated using the Van Kleck Equation and raw and digested sludge volatile solids for the month of January 2019 from locations based on the following information from Operations staff:

All sludge sent to Metro Biosolids Center (MBC) from the Pt. Loma WWTP is pumped from Digester 7.
Only North City Water Reclamation Plant (NCWRP) raw sludge is going to MBC digesters.
The MBC thickened sludge samples are representative of the raw sludge from NCWRP.
MBC is using Digester No.1 for sludge processing.

The following determinations of volatile solids were done using approved methods by a laboratory certified by the State of Arizona (Cert. No. AZ0783)

50.1 % Average Volatile Solids Reduction for the Pt. Loma WTP sludge digestion process.
59.8 % Average Volatile Solids Reduction for the sludge MBC treats from the NCWRP.


Both streams ~~do~~ / ~~do not~~ meet 38% FVSR criteria.



Environmental Chemistry Laboratory Senior Chemist


Date 2-28-19

I certify that the sludge samples taken and used in these determinations were taken and handled under my direction and supervision using approved methods and are representative samples of actual operational conditions.



Wastewater Treatment Superintendent
Metro Biosolids Center (MBC)

3/6/19
Date



Wastewater Treatment Superintendent
Pt. Loma Wastewater Treatment Plant


3-13-19
Date

**CERTIFICATION STATEMENT
VECTOR ATTRACTION REQUIREMENTS**

I certify, under penalty of law, the vector attraction reduction requirement in Paragraph 503.33 (b) (1) which states that:

The mass of volatile solids in the sewage sludge shall be reduced by a minimum of 38 percent, has been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the vector reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

By:



Chief Plant Operator
Wastewater Treatment and Disposal

3/13/19
Date

FVSR (Fractional Volatile Solids Reduction)

$$FVSR = \frac{VS_p - VS_b}{VS_p - (VS_p * VS_b)} = \frac{Vol.solidsRaw - Vol.solids Digested}{Vol.solids Raw - (Vol.solids Raw * Vol.solids Digested)}$$

Where: VS_p = Volatile Solids Feed Sludge (RAW SLUDGE),
 VS_b = Volatile Solids Digested Sludge (DIG SLUDGE), currently only digester 7 is used for the calculation.

Volatile Solids (VS) is expressed as fractional numbers.

Average Volatile Solids for January 2019

Average %TVS Digested Sludge (Digester 7) for the month.	Average Raw (feed) sludge %TVS for the month	Calculated FVSR (%)
CA Lab data used	CA Lab data used	CA Lab data used
60.6	75.5	50.1%

Average Volatile Solids for January 2019

Average %TVS Digested Sludge (MBC Dig 1) for the month.	Average Raw (feed) sludge (MBC_TSBTC) %TVS for the month	Calculated FVSR (%)
CA Lab data used	CA Lab data used	CA Lab data used
66.7	83.3	59.8%

ALVARADO WASTEWATER CHEMISTRY LAB.
ARIZONA DH No. AZ0783
Total and Volatile Solids

PROTOCOL: SM2540G/EPA160.4
 MDL(%): 0.24
 LCS TRUE VALUE: 4

ANALYSIS DATE: 1/18/2019

BATCH ID: 19018TS74
ANALYSIS: TS/VS_SLDG
ANALYST: TJCANNON

[illegible]

POINT LOMA WASTEWATER TREATMENT PLANT
CALIFORNIA HAZARDOUS WASTE IDENTIFICATION TESTS (Title 22)
Metro Biosolids Center Dewatered Sludge
From 01-JAN-2019 to 31-JAN-2019

Source: MBCDEWCN
Sample ID: P1067007
Sample Date: 31-JAN-19

Constituent	MDL. Units	Total Dry Wt. mg/Kg	Total Wet Wt. mg/Kg	TTLc Wet Wt. mg/Kg	W.E.T. Wet Wt. mg/L	STLC Wet Wt. mg/L	CA Health & Safety code	
							40 CFR 503 Limits **	Limits ***
							mg/Kg	mg/Kg
Antimony	0.4 MG/KG	6.14	1.71	500	*	15.00		
Arsenic	1.33 MG/KG	3.29	0.91	500	*	5.00	41	
Barium	0.46 MG/KG	356	99.1	10000	*	100.00		
Beryllium	0.1 MG/KG	ND	ND	75	*	0.75		
Cadmium	0.1 MG/KG	0.86	0.241	100	*	1.00	39	
Chromium (VI)		NA		500	NA	5.00		
Chromium	0.1 MG/KG	46.5	12.9	2500	*	560.00	1,200	
Cobalt	0.1 MG/KG	4.03	1.12	8000	*	80.00		
Copper	1.7 MG/KG	548	153	2500	*	25.00	1,500	2,500
Lead	0.2 MG/KG	13.6	3.8	1000	*	5.00	300	350
Molybdenum	0.1 MG/KG	16.6	4.62	3500	*	350.00		
Mercury	0.059 MG/KG	0.64	0.179	20	*	0.20	17	
Nickel	0.1 MG/KG	20.7	5.75	2000	*	20.00	420	2,000
Selenium	0.93 MG/KG	5.98	1.66	100	*	1.00	100	
Silver	0.26 MG/KG	2.71	0.753	500	*	5.00		
Thallium	0.2 MG/KG	0.68	0.188	700	*	7.00		
Vanadium	0.1 MG/KG	16.9	4.69	2400	*	24.00		
Zinc	0.8 MG/KG	878	244	5000	*	250.00	2,800	
Fluoride	1 MG/KG	29.7	8.27	18000	*	180.00		
Sulfides-Reactive	11 MG/KG	14	4					
Sulfides-Total	500 MG/KG	2200	613					
Total Solids	WT%	27.9						
Total Volatile Solids	WT%	60.7						
pH	PH	7.85		>2 - <12				
Ammonia-N	28 MG/KG	6570						
Nitrite Nitrate Calc	MG/KG	12.9						
Organic Nitrogen Calc.	MG/KG	4700						
Total Kjeldahl Nitrogen	MG/KG	53600						
Aldrin	0.0006 MG/KG	ND	ND	1.4	*	0.14		
Chlordanes	0.0016 MG/KG	ND	ND	2.5	*	0.25		
DDT, DDE, DDD	0.0011 MG/KG	ND	ND	1.0	*	0.10		
2,4-D	MG/KG	NA	ND	100	NA	10.00		
Dieldrin	0.0006 MG/KG	ND	ND	8.0	*	0.80		
Endrin	0.0011 MG/KG	ND	ND	0.2	*	0.02		
Heptachlor	0.0005 MG/KG	ND	ND	4.7	*	0.47		
Kepone		NA	NA	21	NA	2.10		
Lindane	0.99 MG/KG	ND	ND	4.0	*	0.40		
BHC, Total	0.001 MG/KG	ND	ND	4.0	*	0.40		
Methoxychlor	0.0008 MG/KG	ND	ND	100	*	10.00		
Mirex	0.0012 MG/KG	ND	ND	21	*	2.10		
Pentachlorophenol		NA		17	NA	1.70		
PCBs (Aroclors)	2.38 MG/KG	ND	ND	50	*	5.00		
Toxaphene	0.17 MG/KG	ND	ND	5	*	0.50		
Trichloroethene	0.009 MG/KG	ND	ND	2040	*	204.00		
2,4,5-TP		NA		10	NA	1.00		

On the basis of these analyses, I certify that this dried sludge is non-hazardous as defined by California Code, Title 22, Section 66699. All determinations were done using approved methods by laboratories certified by the State of Arizona (Cert. No. AZ0783).



Elvira Mercado, Senior Chemist, Environmental Chemistry Laboratory

TTLc = Total Threshold Limit Concentration.
STLC = Soluble Threshold Limit Concentration.
W.E.T. = Waste Extraction Technique.
* = The total wet concentration is less than 10 times the STLC. Therefore, by definition, this substance is present in concentration that is less than the limit for hazardous wastes.
** = Limits are in mg/Kg (dry weight) based on 40 CFR part 503.13 Table 3 "Limits for Land Application".
*** = The California State Health and Safety Code 25157.8 established a lower limit for Lead.
NA = Not Analyzed, ND= Not Detected, NS= Not Sampled, NR= Not Required
MDL = Method Detection Limit (mg/Kg per dry weight; except for pH and Total and Volatile Solids)
MBCDEWCN = Metro Biosolids Center Dewatered Centrifuged Sludge.

CERTIFICATION STATEMENT
In Compliance With
U.S. Environmental Protection Agency 40 CFR Part 503 Standards
For the Use and Disposal of Bulk Sewage Sludge from the
Metro Biosolids Center
Operated by the
City of San Diego Public Utilities Department

Monthly Sludge Composite Certification - Centrifuge Dewatered Sludge

I. INORGANIC POLLUTANT CONCENTRATIONS: The results of analyses below are for a composite sample of daily centrifuged dewatered sludge samples taken from the centrifuges over the calendar month of January 2019. All analyses were performed by the City of San Diego's Environmental Chemistry Services Laboratory using methods certified by the State of Arizona (Cert. No. AZ0783).

Metals from Table 3 of Paragraph 503.13†
(All concentrations in dry weight)


Parameter	Value	Units	503 Limit	Units
Arsenic	3.29	mg/Kg	41	mg/Kg
Cadmium	0.86	mg/Kg	39	mg/Kg
Chromium	46.5	mg/Kg	1,200	mg/Kg
Copper	548	mg/Kg	1,500	mg/Kg
Lead	13.6	mg/Kg	300	mg/Kg
Mercury	0.64	mg/Kg	17	mg/Kg
Molybdenum	16.6	mg/Kg	75	mg/Kg [^]
Nickel	20.7	mg/Kg	420	mg/Kg
Selenium	5.98	mg/Kg	100	mg/Kg
Zinc	878	mg/Kg	2,800	mg/Kg
Total Nitrogen#	5.36	Wt %		
Date of Sample	31-January-2019			
Total Solids	27.9	Wt %		
Volatile Solids	60.7	Wt %		

† Also conforms to Table 2-Monthly Average Pollutant Concentration of the Arizona Administrative Code Title 18, Chapter 9.

[^] Limits for Molybdenum taken from 2009 version of 40 CFR part 503.13 Table 1, Ceiling Concentrations

Value is a sum calculation of Total kjeldahl nitrogen, Nitrate as N and Nitrite as N.

Based on this month's analysis and the results of analyses of monthly sludge composite samples for the previous year, no parameter in the described sludge stream exceeds 40 CFR Part 503 Standards for land application.



Senior Chemist
Environmental Chemistry Laboratory,
California State ELAP Cert. No. 1609

2/28/19
Date

VAR CERT. Form
Revised 7/6/2000

POINT LOMA WASTEWATER TREATMENT PLANT
CALIFORNIA HAZARDOUS WASTE IDENTIFICATION TESTS (Title 22)
Metro Biosolids Center Dewatered Sludge
From 01-JAN-2019 to 31-JAN-2019

Source: MBCDEWCN
Sample ID: P1067007
Sample Date: 31-JAN-19

Constituent	MDL. Units							CA Health & Safety code	
		Total Dry Wt. mg/Kg	Total Wet Wt. mg/Kg	TTLc Wet Wt. mg/Kg	W.E.T. Wet Wt. mg/L	STLC Wet Wt. mg/L	40 CFR 503 Limits ** mg/Kg	Limits *** mg/Kg	
Antimony	18 MG/KG	ND	ND	500	*	15.00			
Arsenic	5.3 MG/KG	ND	ND	500	*	5.00	41		
Barium	2.6 MG/KG	350	97.5	10000	*	100.00			
Beryllium	0.88 MG/KG	ND	ND	75	*	0.75			
Cadmium	0.9 MG/KG	1.8	0.501	100	*	1.00	39		
Chromium (VI)		NA		500	NA	5.00			
Chromium	1.8 MG/KG	44	12.3	2500	*	560.00	1,200		
Cobalt	1.8 MG/KG	ND	ND	8000	*	80.00			
Copper	3.9 MG/KG	710	198	2500	*	25.00	1,500	2,500	
Lead	3.5 MG/KG	13	3.6	1000	*	5.00	300	350	
Mercury	0.1 MG/KG	0.64	0.179	20	*	0.20	17		
Molybdenum	3.5 MG/KG	16	4.46	3500	*	350.00			
Nickel	3.5 MG/KG	27	7.52	2000	*	20.00	420	2,000	
Selenium	3.1 MG/KG	DNQ10	2.79	100	*	1.00	100		
Silver	3.1 MG/KG	ND	ND	500	*	5.00			
Thallium	18 MG/KG	ND	ND	700	*	7.00			
Vanadium	1.8 MG/KG	18	5.01	2400	*	24.00			
Zinc	8.8 MG/KG	920	256	5000	*	250.00	2,800		
Fluoride	1 MG/KG	29.7	8.27	18000	*	180.00			
Sulfides-Reactive	11 MG/KG	14	4						
Sulfides-Total	500 MG/KG	2200	613						
Total Solids	WT%	27.9							
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2,4-D	MG/KG	NA	ND	100	NA	10.00			
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Endrin	0.0011 MG/KG	ND	ND	0.2	*	0.02			
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Kepone		NA	NA	21	NA	2.10			
Lindane	0.99 MG/KG	ND	ND	4.0	*	0.40			
BHC, Total	0.001 MG/KG	ND	ND	4.0	*	0.40			
Methoxychlor	0.0008 MG/KG	ND	ND	100	*	10.00			
Mirex	0.0012 MG/KG	ND	ND	21	*	2.10			
Pentachlorophenol		NA		17	NA	1.70			
PCBs (Aroclors)	2.38 MG/KG	ND	ND	50	*	5.00			
Toxaphene	0.17 MG/KG	ND	ND	5	*	0.50			
Trichloroethene	0.009 MG/KG	ND	ND	2040	*	204.00			
2,4,5-TP		NA		10	NA	1.00			

On the basis of these analyses, I certify that this dried sludge is non-hazardous as defined by California Code, Title 22, Section 66699.



Elvira Mercado, Senior Chemist, Environmental Chemistry Laboratory

TTLc = Total Threshold Limit Concentration.

STLC = Soluble Threshold Limit Concentration.

W.E.T. = Waste Extraction Technique.

* = The total wet concentration is less than 10 times the STLC. Therefore, by definition, this substance is present in concentration that is less than the limit for hazardous wastes.

** = Limits are in mg/Kg (dry weight) based on 40 CFR part 503.13 Table 3 "Limits for Land Application".

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Metro Biosolids Center
Operated by the
City of San Diego Public Utilities Department

Monthly Sludge Composite Certification - Centrifuge Dewatered Sludge

I. INORGANIC POLLUTANT CONCENTRATIONS: The results of analyses below are for a composite sample of daily centrifuged dewatered sludge samples taken from the centrifuges over the calendar month of January 2019.

Metals from Table 3 of Paragraph 503.13†
(All concentrations in dry weight)

Parameter	Value	Units	503 Limit	Units
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Cadmium	1.8	mg/Kg	39	mg/Kg
Chromium	44	mg/Kg	1,200	mg/Kg
Copper	710	mg/Kg	1,500	mg/Kg
Lead	13	mg/Kg	300	mg/Kg
Mercury	0.64	mg/Kg	17	mg/Kg
Molybdenum	16	mg/Kg	75	mg/Kg [^]
Nickel	27	mg/Kg	420	mg/Kg
Selenium	DNQ10	mg/Kg	100	mg/Kg
Zinc	920	mg/Kg	2,800	mg/Kg
Total Nitrogen#	5.36	Wt %		
Date of Sample	31-January-2018			
Total Solids	27.9	Wt %		
Volatile Solids	60.7	Wt %		

† Also conforms to Table 2-Monthly Average Pollutant Concentration of the Arizona Administrative Code Title 18, Chapter 9.


[^] Limits for Molybdenum taken from 2009 version of 40 CFR part 503.13 Table 1, Ceiling Concentrations

Value is a sum calculation of Total kjeldahl nitrogen, Nitrate as N and Nitrite as N.

6010B parameters (As, Cd, Cr, Cu, Pb, Mo, Ni, Se and Zn) were analyzed by TestAmerica.

DNQ = Detected but not quantified; sample result is less than the Minimum Level but greater than or equal to the MDL.

Based on this month's analysis and the results of analyses of monthly sludge composite samples for the previous year, no parameter in the described sludge stream exceeds 40 CFR Part 503 Standards for land application.



Senior Chemist
Environmental Chemistry Laboratory,
California State ELAP Cert. No. 1609

2/28/19
Date

VAR CERT. Form
Revised 7/6/2000